

# Deep in the Pocket of Technology Creative Fiscal Management in Tight Times

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## ABSTRACT

In 2002, Middlebury College merged Information Technology and Library Services into one new organization (Library & Information Services.) This paper will discuss how one organization took creative measures to make budget and labor reductions, while forging ahead with new technologies, new initiatives, a new organization and plans for a new building ([http://www.middlebury.edu/new\\_library/](http://www.middlebury.edu/new_library/).) Discussion will include a model approach of zero-based budgeting, technological forecasting and developing a 5-year flexible budget model, creating a not-to-do list, streamlining existing processes, and making the "tough" decisions.

## Categories and Subject Descriptors

K.6.0 [Management of Computing and Information Systems]: General - *Economics*

K.6.1 [Management of Computing and Information Systems]: Project and People Management - *Staffing, Strategic information systems planning*

## General Terms

Management, Economics, Human Factors

**Keywords:** Zero Base Budget (ZBB), Process Analysis, Budget Planning, Cost Reduction, Streamlining, Not-To-Do List, Crisis, Opportunity.

## 1. INTRODUCTION

Middlebury College is a small, private, liberal arts college, nestled amidst the Green Mountains in Vermont. While we are relatively sheltered from the chaos of larger urban issues, we are not immune to the economic situations that our higher education partners are all facing in today's world – how to deal with budget cuts!

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In 2002, Middlebury College merged Information Technology, Educational Technology, Media Services and Library Services into one new organization (Library & Information Services), and began construction on a new library building. Our challenge immediately became how to build and grow a newly merged organization in alignment with the institutional goals of the college, provide staff, equipment and services for a new building on the horizon, maintain the high level of service expected, implement new technologies, leap tall buildings, maintain moral, and do all with less. Fortunately we were provided with the opportunity of trimming back our budget ourselves, rather than facing across the board cuts.

## 2. START FROM GROUND ZERO

From crisis comes opportunity, translated from the Chinese character wei (danger) and ji (opportunity). If we look at the economic situation at hand (budget cuts, layoffs, market returns down), our first reaction is often that of a state of crisis. How can we possibly cope with less? What will we do? Give yourself time to react initially to the news, and then jump into the opportunity mode. Start from ground zero and begin to build!

### 2.1 Zero Base Budgeting (ZBB)

Zero Base budgeting (ZBB) is not a new concept, and has been used with success in many businesses, school districts, and government departments, however ZBB was a foreign concept to our organization. We, like many other librarians and computer specialists, are in the business of education, service and support, so initiating a business concept, let alone one that required major effort was no small undertaking, but it seemed to align with our newly formed organizational directions (opportunity,) and the alternative was across the board budget cuts (crisis.)

Zero base budgeting derives from the idea that budgets are developed from a zero base: that is, at the beginning of the budget development process, all budgets start from scratch, they have a value of ZERO. This is in sharp contrast to the incremental budgeting system in which a new budget starts with a balance *at least equal* to last year's total balance or an estimate of it.

Library & Information Services had historically used incremental budget processes, where base budgets were derived from the previous year, and justification was only necessary if you were asking for "additional" funding.

### 2.1.1 Objectives of Zero Base Budgeting

The main objective of ZBB is to reduce costs, building from zero and only adding in the needs should paint the picture for us. Of course, our world in education is not painted in black and white (oh how easy that would be,) but rather a myriad of many colors, needs, wants and desires. Thus, we concentrated on primarily reducing costs (avoiding crisis), but also focused on the following objectives (opportunity):

- Reduce costs
- Focus the budget process on a comprehensive analysis of objectives and needs
- Combine planning and budgeting into a single process
- Cause managers to evaluate in detail the cost effectiveness of their operations
- Expand group participation in planning and budgeting

### 2.1.2 Creating a ZBB – 5 Steps

We gathered all of our existing department heads and managers together and gave an overview presentation of ZBB and what was expected of them (group participation) to help create a new budget process using the five steps outlined below:

- Identify all activity/initiative/process costs
- Analyze all costs and processes
- Rank activities/initiatives in priority order
- Prepare budget request with the approved activities and initiatives
- Control: constantly monitor and evaluate

Worksheets were also provided to help initiate and guide the process, although we soon found that no single worksheet made sense to everyone largely due to a wide variation in semantics and terminology. As a result, I met individually with all the managers and department heads to tailor the worksheet for their needs (again opportunity). An example is provided (see table 1.)

**Table 1. Activity cost worksheet example for ZBB**

Activity	Cost (time or \$)	Detail	Priority	Benefits	Ramifications
New wiring	\$\$\$	Bldg1 \$50K	1	Connect to network	No network access
Patch cords	\$	\$10K	3	Provide for user	User pays

### 2.1.3 Lots of Work, Why Bother?

As you may be thinking, this endeavor sounds like a lot of work – where are the benefits and why should I bother? This was the resounding reaction I received and expected, as with any change comes some resistance. What do we gain by implementing a ZBB?

- Provides more detail, so we can know our expenditures intimately (no hidden budgets)
- Forces prioritization of projects, helps focus on goals and objectives
- Allows for better informed decision making

The last is a diamond in the rough – better decision making. By using ZBB, detailing expenses and prioritizing, you can obtain information, which will allow you to:

- Analyze what services or projects you can temporarily stop or discontinue
- Look at changes you can make in processes
- Find available resources (time, money, equipment, education) for new initiatives
- Allows for multi-year budgeting

## 3. CALL FOR COST SAVING MEASURES

Implementing a ZBB is a good start and will provide for sound budget planning in the future years, but it takes time to develop, and again we found ourselves in need of immediate cost saving measures in order to avoid crisis. A call was made to the entire LIS staff (~100 employees) in the form of email:

“Each and every one of us has great ideas every day! Now is your chance to share them and make a difference!

We are looking for ideas that will cut costs (money, time, energy, etc) both within LIS and across the entire campus.

No idea is too small or too large to consider.

Ideas can be within your group, within LIS, or across campus. Have you wondered WHY the campus or another department does something the way it does? Now is your chance to suggest a different approach.”

My “cost saving ideas” folder in my inbox began to explode! All ideas were indeed forthcoming, and in multitudes. It really pays to ask for help!

Some of the ideas we are in process of implementing immediately, others we will investigate and compare the cost savings vs. work to implement ratio. The following sections will detail a few of the ideas we are currently implementing.

### 3.1 Energy Savings

Cost savings ideas come in all flavors. Middlebury College resides in New England, and has a strong Environmental Studies program, so energy savings ideas as well as environmental concerns were abundant. A few we are in process of implementing are as follows:

- Evoke energy management settings on all college owned computers in faculty, staff and public.
- Team with Environmental Studies and Student Groups to educate all students/faculty & staff to undertake this initiative as well on personal owned computing equipment.
- Estimated cost savings \$10-50,000/annually in electricity costs.

### 3.2 Paper Reduction

Aside from software licenses, one of our largest uncontrollable expenses is for printing. The “paperless office” must reside on the west coast, as it is far from Middlebury’s campus! As a result we are evaluating all print processes.

### 3.2.1 Tracking Public Printing Costs

Middlebury College, we do not charge our students a technology fee, nor do we currently charge them for printing. As a result our printing costs have skyrocketed, making Moore's Law seem modest in comparison. Before implementing a charge for service on a service that has always been free, we decided to combine forces (group participation) with our Environmental Studies department and a new Carbon Reduction Task Force on campus to help educate the masses and attempt to reduce both cost and waste (opportunity.) For this initiative we needed to know what our initial costs were so we invoked one of our graduate interns to modify code on Whitman College's Paper Tracker (<http://mgrsys2.whitman.edu/pagecounts/>) to allow us to use the same resource at Middlebury. This effort is allowing us to track costs and at the same time educate our users. It is amazing to see the faces of students who look at the Middlebury website (<http://140.233.7.63/pagecounts/index.html>) and immediately see the effect it has. Knowledge is power!

### 3.3 Hardware Replacement Cycle

One of the ways you can reduce costs is to look at *temporarily* stopping a process. We often think stopping a process is forever, immediately react and say we can't stop this so our Not-to-do list never formulates, and thus we lose an opportunity in the process. In a cost saving measure to keep our College budget on target for the coming years, Library and Information Services decided to halt faculty and staff office computer equipment replacement for one year.

This is the first stage in our new multi-year plan to replace desktop computer equipment every four years, in preference to our current three-year average cycle. By freezing replacements during the coming fiscal year, we anticipate a one-time savings of \$x00,000. In following years, \$x00,000 in annual savings will be realized by lengthening our regular replacement cycle by one year.

One of the additional benefits of this cost saving measure will be the time it frees up for new initiatives for a number of our staff!

## 4. SURVIVE – FORM ALLIANCES

Budget cuts can be deadly, but there are many ways to combat the crisis. Form alliances, as we all know from our TV influencers, there is strength in numbers.

## 4.1 Explore the Obvious

Is your institution a member of a consortium or a state-wide purchasing program? Many consortiums have pricing plans with a number of large and not-so-large vendors. If not, can you round up a number of like institutions to form one?

## 4.2 Six Degrees of Separation

In process of renegotiating one of our existing software contracts I was not happy to find the pricing had substantially increased. Frustrated, I hung up the phone and wondered how others managed to deal with this vendor. I made a number of calls to all of the higher educational institutions in the state of Vermont, and in the process stumbled upon a unique contract that enabled us to take advantage of a consortium that was based in California. Who would have ever known that a small private college in New England would have ties to a west coast consortium? It did not help me with the vendor at hand, but it opened my mind to explore many other venues.

## 4.3 Think Outside the Department

What alliances can you form to help you with your endeavors? Information is the key – find out what other initiatives are within your grasp. I have mentioned our combination of forces with student groups and academic departments. Students have a strong voice on our campus and can help push initiatives, this does have some overhead attached as does any project, but weigh the odds and explore the possibilities!

## 5. CONCLUSION

There is no one magic solution to combat money woes, but creativity does pay off. I encourage you to think about the preceding concepts and apply them in context to your own institutions. Economic downshifts, politics, and human factors are all here to stay, but isn't challenge what keeps us going?

## 6. ACKNOWLEDGMENTS

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